

# Performance Measures

## Introduction

Reliable and accessible transport infrastructure is a cornerstone for socioeconomic progress. It enables productivity, growth, shortens travel times and costs, creates jobs, and connects different parts of society. One way to determine if the services delivered by transport agencies contribute towards this outcome is through timely accurate and meaningful performance information.

Done well, this information assists in improving accountability and transparency and aids in our decision-making. We use performance measurement to gain insight into, and make judgements about, the effectiveness and efficiency of the services we provide to society.

We measure our progress in meeting strategic goals and outcomes and use that to drive improvements and determine the success, or failure, derived from the delivery of our services into positive societal outcomes. Our measures support decision making by:

- providing guidance and direction on how efficient and effective we are
- indicating where improvements might be necessary
- identifying potential areas of risk
- determining if our customers are satisfied
- measuring our success in delivering agreed Government goals and outcomes.

Our performance measures are integrated within a monthly evaluation and reporting process that is reviewed by our Corporate Executive Leadership team.

## Alignment with Government Goals

Main Roads contributes towards the achievement of three broad goals identified by the Western Australian Government. We achieve the delivery of these goals through a service based outcome approach. We have six services that drive our outcome in order to achieve the delivery of transport and road related services to our customers on behalf of the Government. This table illustrates that relationship.

Main Roads		Government Goals
Service	Outcome	
Road Safety	A safe road environment	<b>Strong Communities</b> Safe communities and supported families
Infrastructure for community access	Improved community access and roadside amenity	
Infrastructure for State Development	Facilitate economic and regional development	<b>Future Jobs and Skills</b> Grow and diversify the economy, create jobs and support skills development
Road System Management	Reliable and efficient movement of people and goods	<b>Better Places</b> A quality environment with liveable and affordable communities and vibrant regions
Road Efficiency Improvements		
Road Network Maintenance	A well maintained road network	

In this report are agreed key effectiveness indicators that measure the extent of impact and success in the delivery of our services against the achievement of desired outcomes. The key efficiency indicators monitor the relationship between the services delivered and the resources used to provide our services.

## Understanding our measures

The following information gives an overview of the approach taken for two of the more prominent measures featured in this report.

### Community Perception

Four of the measures are derived from an annual Community Perceptions Survey that reflects the satisfaction levels of our customers in metropolitan and rural areas. These measures are Community Satisfaction with Main Roads, Road Safety, Provision of Cycleway and Pedestrian Facilities and Road Maintenance. An external research company collected the data by way of an online survey, social media interviews and a small number of computer assisted telephone interviews (CATI) using a developed structured questionnaire.

The results are based upon a random and representative sample (age, gender and region) of 1,370 people (669 in the metropolitan area and 701 in regional areas). When extending these results to estimate the percentage of satisfied Western Australians, the overall sampling error is +/- 2.65% at the 95% confidence interval. The data is also weighted to reflect the actual population distribution based on ABS statistics. In each case, respondents had the opportunity to rate Main Roads performance as terrible, poor, okay, good or excellent in terms of road safety, providing cycleway and pedestrian facilities, road maintenance and overall performance. The reported results represent only the total of okay, good and excellent ratings.

### On Time and On Cost

The delivery of infrastructure in a State that is as climatically and geologically diverse as Western Australia, provides many challenges. Eight of our efficiency measures are based on reporting against the delivery of our contracts in terms of time and cost. To recognise the complexity in achieving this, and consistent with approaches taken in other road agencies, all reporting against these measures includes a 10% margin when calculating the final outcome.

A target of 90% has been established for each of the On Time and On Cost measures based on what is considered to be an acceptable outcome taking into account risk and the variable nature of delivering road contracts. A result within the target range indicates that internal processes and procedures are appropriate, working well and deployed. A result below the targets warrants further investigation to determine if there are any underlying systemic issues. There has been no changes to the approaches or methodology underpinning our measures this year.

### Structure

The structure of this section of the report begins with a table that summarises our service outcomes and measures for each indicator showing the trend over time in addition to providing a comparison as to how the results for the current year compare against the targets established in the State Budget Papers.

The remainder of this section provides a narrative on each of the efficiency and effectiveness indicators for the six outcome based services.

**SUMMARY OF KEY PERFORMANCE MEASURES AND OUTCOMES**

	2017	2018	2019	2020 Target	2020 Actual		
<b>Road Safety</b>							
% Community Satisfaction of road safety	90	88	91	90	92		
Black Spot location indicator	8.43	7.92	7.46	6.81	7.33		
% of contracts completed on time	77	89	80	90	87		
% of contracts completed on budget	93	92	100	90	100		
<b>Road Efficiency and Road System Management</b>							
% Community Satisfaction	87	88	90	90	90		
Road network permitted for use by heavy vehicles	B Double – 27.5m %	97	97	97	98		
	Double RT – 27.5m %	97	97	97	97		
	Double RT – 36.5m %	80	80	80	80	81	
	Triple RT – 53.5m %	45	45	45	45	45	
% Network configuration	Roads	92	92	92	90	93	
	Bridges	Strength	92	94	94	93	94
		Width	96	96	96	96	96
% of contracts completed on time	68	83	100	90	77		
% of contracts completed on budget	93	100	97	90	100		
Average \$ cost of network management per million vehicle km travelled	5,345	5,969	6,456	5,983	6,427		
<b>State Development</b>							
Average return on construction expenditure	3.2	3.3	4.1	4.0	4.3		
% of contracts completed on time	40	75	75	90	100		
% of contracts completed on budget	100	100	92	90	100		
<b>Road Maintenance</b>							
% Smooth Travel Exposure	96	n/a	97	n/a	n/a		
% Community Satisfaction road maintenance	84	82	87	90	86		
% Preventative maintenance indicator	85	84	84	85	85		
Average \$ cost of network maintenance per lane kilometre of road network	8,758	10,604	9,962	7,950	7,757		
<b>Community Access</b>							
% of the year that 100% of the Main Roads' State road network is available	92	87	91	95	89		
% Community satisfaction with cycleways and pedestrian facilities	87	89	91	90	91		
% of contracts completed on time	100	64	86	90	0		
% of contracts completed on budget	100	100	100	90	100		

## Road Safety

### Outcome: Providing a safe road environment

This service seeks to reduce the State's road fatality rate to the lowest in Australia by minimising road factors contributing to road trauma and reducing the serious crash injury rate. We demonstrate this through the following measures:

	2019 Actual	2020 Target	2020 Actual
% Community Satisfaction of road safety	91	90	92
Black Spot location indicator	7.46	6.81	7.33
% of contracts completed on time	80	90	87
% of contracts completed on budget	100	90	100

### Effectiveness Indicators

#### Community Satisfaction with Road Safety

This indicator represents how satisfied the community is with Main Roads' overall performance in the area of road safety. Main Roads exceeded the target for the second year in a row, with 92% of participants giving an okay or better rating. Great Southern improved significantly in 2020, achieving 90%, their highest result in 4 years. The rest of the regions remained steady except for South West which dropped eight percent to 90%.

#### Black Spot Location Indicator

The indicator gives a measure of the number of locations on the road network that meet State Black Spot (high risk locations) criteria based on an analysis of crash history. The measure uses a sliding window to determine whether the number of locations eligible for funding is increasing or decreasing, considering the amount of travel in the State. The four-year trend continues to show a gradual decline in the number of eligible black spot locations with the current result, although slightly higher than the target, once again being the lowest recorded since the implementation of the Black Spot program.

### Efficiency Indicators

#### Percentage of Contracts Completed on Time

This indicator represents the percentage of contracts delivered on time in the Road Safety Service. The result achieved was 87% against a target of 90% with four contracts that were over time. Two of these contracts are still in progress and have requests for extension of time pending but not approved as at 30 June. The remaining two contracts were delayed due to contractor's not completing works on time and no extensions of time were granted.

#### Percentage of Contracts Completed on Budget

This indicator represents the percentage of contracts delivered on budget in the Road Safety Service. There are no contracts over budget for this Service therefore the result achieved was 100% which is above the target of 90%.

## Efficiency and Road System Management

### Outcome: Reliable and efficient movement of people and goods

The Efficiency Service seeks to improve the efficiency, capacity and utilisation of the existing road network whilst the Road System Management Service seeks to optimise real-time management of the network, provide traveller information, asset management planning and to support service delivery throughout the organisation. Together these services contribute to achieving the outcome. We demonstrate this through the following measures:

		2019 Actual	2020 Target	2020 Actual	
% Community Satisfaction		90	90	90	
Road network permitted for use by heavy vehicles	B Double – 27.5m %	97	97	98	
	Double RT – 27.5m %	97	97	97	
	Double RT-36.5m %	80	80	81	
	Triple RT-53.5m %	45	45	45	
% Network configuration	Roads	92	90	93	
	Bridges	Strength	94	94	94
		Width	96	96	96
% of contracts completed on time		100	90	77	
% of contracts completed on budget		97	90	100	
Average \$ cost of network management per million vehicle km travelled		6,456	5,983	6,427	

### Effectiveness Indicators

#### Community Satisfaction

This indicator represents how satisfied the community is with Main Roads' overall performance in the management and operation of the State road network. The rating held ground in 2020, with 90% of survey participants rating Main Roads' performance as okay or better. Three regions exceeded the 90% target with the ratings for both Great Southern and Wheatbelt increasing 11% and 10% respectively, on 2019 results.

#### Road Network Permitted for use by Heavy Freight Vehicles

This indicator relates to the efficient movement of goods within Western Australia and the percentage of available State roads accessed by the following types of vehicles B-Doubles, Double road trains and Triple road trains. The use of larger vehicles with heavy loads can increase the overall efficiency of freight transport operations, resulting in lower transport costs. However, to maintain road safety and guard against infrastructure damage, restrictions are placed on some trucks.

Because of the relatively high efficiency of these vehicles, the proportion of roads accessible to them is an important factor in the overall efficiency of freight transport in this State. Over the past four years the trend has remained relatively consistent with minor fluctuations attributed to changes in ownership or roads between State and Local government.

#### Network Configuration-Roads

This indicator shows the percentage of travel undertaken on roads meeting specific criteria for seal width, carriageway width and curve rating. The indicator gives a measure of the ability of Main Roads to plan for and maintain roads to desirable standards. In 2020, 93% of travel was undertaken on roads meeting the seal width, carriageway width and curve rating criteria, which is above the target of 90% for that period. The results over the four-year period are relatively consistent and demonstrate that Main Roads continues to plan and program works to address roads that are below the criteria.

## Network Configuration – Bridges

Like the roads measure, bridges are assessed for strength and width using agreed investigatory criteria. The monitoring of bridge strength and width needs to ensure a safe and efficient road network relating to improved access and transport efficiencies. These measures are indicators for the number of bridges that meet, or are above, the investigatory criteria, recorded as a percentage of the total number of bridges on main roads and highways. Bridges that do not meet the investigatory criteria for strength or width are considered in assessing, scoping and prioritising works, as part of the ten-year bridge strategy.

*Strength* – The results of this indicator show that 94% of the bridges meet the agreed criteria for strength against a target of 94%.

*Width* – In relation to width, 96% of bridges meet the criteria against a target of 96%.

## Efficiency Indicators

### Percentage of Contracts Completed on Time

This indicator represents the percentage of contracts delivered on time in the Road Efficiency Service. The result achieved was 77% against a target of 90% with five contracts that were over time of which three are still in progress. Of the remaining contracts, one was delayed because of inclement weather whilst the other was delayed in order to prevent a conflict with other contracted works.

### Percentage of Contracts Completed on Budget

This indicator represents the percentage of contracts that were delivered on budget in the Road Efficiency Service. There are no contracts over budget for this Service therefore the result achieved was 100% which is above the target of 90%.

### Average Cost of Network Management

This indicator measures the financial efficiency of the Road System Management program in terms of cost per million vehicle kilometres travelled to manage the road system. In order to compare current figures with previous years all figures have been adjusted and reported in terms of current year's dollars. In respect of the current year, the result of \$6,427 per million vehicle kilometres travelled is higher than the target of \$5,983. The variation reflects an increased volume of project planning and development activities coupled with addressing congestion with non built solutions (for example, new software and artificial intelligence) not factored in when setting the target.

## State Development

### Outcome: Facilitating economic and regional development

This service expands the road network in accordance with State and Commonwealth transport and land use strategies that will facilitate the economic and regional development of the State. We demonstrate this through the following measures:

	2019 Actual	2020 Target	2020 Actual
Average return on construction expenditure	4.1	4.0	4.3
% of contracts completed on time	75	90	100
% of contracts completed on budget	92	90	100

### Effectiveness Indicators

#### Return on Construction Expenditure

New roads and bridge construction adds to the capacity of the road network. Return on Construction Expenditure is based on Benefit Cost Ratio (BCR) estimates of a set of projects undertaken each year. It indicates the extent to which road and bridge construction expenditure will deliver future economic benefits to the community. This indicator represents the expenditure weighted BCR for the State Development Service and Road Efficiency Service for which a BCR has been calculated. The BCR came ahead of target with an expenditure weighted average result of 4.3 against the target of 4.0.

### Efficiency Indicators

#### Percentage of Contracts Completed on Time

This indicator represents the percentage of contracts delivered on time in the State Development Service. There are no contracts over time for this Service therefore the result achieved was 100% which is above the target of 90%.

#### Percentage of Contracts Completed on Budget

This indicator represents the percentage of contracts delivered on budget in the State Development Service. There are no contracts over budget for this Service therefore the result achieved was 100% which is above the target of 90%.

## Road Maintenance

### Outcome: Providing a well maintained road network

This service seeks to maintain the existing road and bridge network by maximising asset life and minimising whole of life costs. We demonstrate this through the following measures:

	2019 Actual	2020 Target	2020 Actual
% Smooth Travel Exposure	97	n/a	n/a
% Community Satisfaction road maintenance	87	90	86
% Preventative maintenance indicator	84	85	85
Average \$ cost of network maintenance per lane kilometre of road network	9,962	7,950	7,757

### Effectiveness Indicators

#### Community Satisfaction of Road Maintenance

This indicator represents how satisfied the community is with Main Roads' overall performance in the maintenance of the State road network. 86% of survey participants rate our performance as okay or better, dropping only one percent from 2019. Regionally, Great Southern had the most significant improvement.

#### Preventative Maintenance Indicator

The Preventative Maintenance Indicator provides a measure of the proportion of sealed state road network that has a surfacing age younger than its optimal target age. The indicator provides a measure of proactive maintenance undertaken on the network on an annual basis, sections of the network with a surfacing age younger than the target age are classified as 'Good'. This year the analysis shows that 85% of the network is 'Good', which meets the target of 85%. This slightly higher value shows an improvement in the percentage of surfacing age classified as 'Good' compared to the previous two years.

#### Smooth Travel Exposure

This indicator is based on the percentage of travel undertaken on the State road network meeting specific roughness criteria. However, given that we only complete a survey of the network once every two years this year is a non-reporting period. The next result will be available and reported as at 30 June 2021.

### Efficiency Indicators

#### Average Cost of Network Maintenance per Lane Kilometre of Road Network

This indicator identifies the financial efficiency of road and roadside maintenance works by showing the cost per lane kilometre to maintain acceptable travel conditions on the State roads. In determining the cost basis expenditure on structures and infrastructure depreciation has been excluded. In order to compare current figures with previous years all figures have been adjusted and reported in terms of current year's dollars which can influence the trend result. The inclusion of Reseal, Rehabilitation and Natural disasters makes this KPI sensitive to additional budget being made available to address flood damage and maintenance backlog. This year's result shows an insignificant variance against the target with the result being lower than estimated.



## Community Access

### Outcome: Improving community access and roadside amenity

This service seeks to provide infrastructure that will increase personal mobility and community access. We demonstrate this through the following measures:

	2019 Actual	2020 Target	2020 Actual
% of the year that 100% of the Main Roads' State road network is available	91	95	89
% Community satisfaction with cycleways and pedestrian facilities	91	90	91
% of contracts completed on time	86	90	0
% of contracts completed on budget	100	90	100

#### Effectiveness Indicators

##### Unplanned Road Closure on the State Road Network

Generally 100% of Main Roads Road sealed network is available to all road users; however, there are unplanned road closures due to a number of reasons including flooding, cyclones, bushfires and major road crashes, which may vary in duration. The availability of the sealed road network is measured as a percentage of calendar days that the whole network is available to the road user. Closure is determined by measuring the number of whole days (24 hours commencing from the time the road is closed) that any section of the sealed road network in Western Australia is closed. This year the road network was available 89% of the year, which is below the target of 95%. This was due to the Goldfield bushfires from December to January, and Cyclone Blake and Cyclone Claudia in the Pilbara.

##### Community Satisfaction with Cycleways and Pedestrian Facilities

This indicator represents how satisfied the community is with Main Roads' performance in the construction, maintenance and management of cycleways and pedestrian facilities. 91% of survey participants rated our performance as okay or better this year, surpassing our target and matching 2019's result. The Metropolitan region continues to achieve the highest result for this indicator, however Kimberley experienced a six percent increase in 2020 to achieve its highest rating in 3 years.

#### Efficiency Indicators

##### Percentage of Contracts Completed on Time

This indicator represents the percentage of contracts delivered on time in the Community Access Service. This year there were only two contracts included in this measure and both finished behind time. One of the contracts remains in progress at the time of preparing this report whilst the second contract was delayed due to inclement weather and design changes to prevent large scale removal of rock. Whilst the result is unusual, it is not indicative of the performance in previous years.

##### Percentage of Contracts Completed on Budget

This indicator represents the percentage of contracts delivered on budget in the Community Access Service. There are no contracts over budget for this Service therefore the result achieved was 100% which is above the target of 90%.